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Lindsey Lin

Applicant : Masahiro Sone Confirmation No. 2823  
Application No. : 09/684,859  
Filed : October 5, 2000  
Title : SYSTEM AND METHOD FOR CONTINUOUS DELIVERY  
SCHEDULE INCLUDING AUTOMATED CUSTOMER  
NOTIFICATION  
  
Grp./Div. : 3623  
Examiner : Michael C. Heck  
  
Docket No. : 33108/F179

**RESPONSE TO NOTIFICATION OF NON-COMPLIANT APPELLANT'S BRIEF**

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Commissioner:

In response to a Notification of Non-Compliant Appeal Brief dated June 16, 2006, Appellant submits this amended appeal brief. This is an appeal from the Final Rejection dated October 31, 2005.

**1. REAL PARTY IN INTEREST**

The real party in interest is Fujitsu Limited, assignee of the application.

**2. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences presently pending.

**3. STATUS OF CLAIMS**

Claims 1-36 are pending in the application. No claims have been allowed. The rejection of claims 1-36 is appealed.

**4. STATUS OF AMENDMENTS**

No amendments were filed after the final Office action dated October 31, 2005.

**5. SUMMARY OF CLAIMED SUBJECT MATTER**

The invention relates to a system and method for continuously monitoring and updating delivery schedules based on completed deliveries and customer modifications. With reference to FIG. 1, a delivery scheduling computer 10 communicates with remote customers and delivery employees over a wide area network, such as the Internet. The delivery scheduling computer 10 automatically generates a delivery schedule based on a routing algorithm, and stores the delivery schedule information in a mass storage device 36. (Specification, p. 10, line 13 - p. 11, 26). The delivery scheduling computer 10 transmits a relevant portion of the delivery schedule information to the customers prior to their estimated times of delivery. (Specification, p. 11, line 33 - p. 12, line 10). In this way, customers are alerted of deliveries prior to their attempt. (Specification, p. 7, lines 19-20).

If a customer desires to change the time or location of the delivery, the customer accesses his or her PC 14, hand-held computer 18, set-top box 16, or other customer device, and transmits a delivery change request to the delivery scheduling computer 10. (Specification, p. 12, lines 11-24). The delivery scheduling computer 10 recomputes the delivery schedule in response to the delivery change request. (Specification, p. 3, lines 25-28; p. 7, lines 21-29; p. 12, line 25 - p. 13, line 23). The recomputed delivery schedule is then transmitted to the delivery employee for making deliveries according to the recomputed delivery schedule. (Specification, p. 7, lines 30-34; p. 8, lines 25-28).

Upon completion of a particular delivery, the delivery employee transmits to the delivery scheduling computer 10 a delivery completion message which includes the actual time of the delivery. (Specification, p. 8, lines 9-12). Upon receipt of the delivery completion message, the

delivery scheduling computer 10 recalculates the estimated delivery times of the remaining deliveries, and transmits a modified schedule information to the delivery employee. (Specification, p. 8 lines 20-23). In this manner, estimated delivery times for the remaining deliveries may be more accurately predicted. (Specification, p. 8, lines 23-25).

**6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

1. Whether claims 1-23, 25-31, and 33-36 are unpatentable under 35 U.S.C. 103(a) over Business Wire's article entitled "ShopLink Selects Descartes' e-Business Home Delivery Solution to Optimize Service and Delivery for the Online Grocery and Household Service" (hereinafter referred to as "Business Wire"), and CNN Matthews' article entitled "The Descartes Systems Group Unveils Revolutionary Web-Based Delivery Management System to Monitor the Flow of Products Throughout the Entire High-Tech Supply Chain" (hereinafter referred to as "CNN Matthews").

2. Whether claims 24 and 32 are unpatentable under 35 U.S.C. 103(a) as being unpatentable over Business Wire and CNN Matthews, and further in view of the Examiner's Official Notice.

**7. ARGUMENT**

Claims 1-23, 25-31, and 33-36 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Business Wire and CNN Matthews. Claims 24 and 32 stand rejected over 35 U.S.C. 103(a) as being unpatentable over Business Wire and CNN Matthews, and further in view of the Examiner's Official Notice.

The Examiner's rejection of claims 1-36 should be reversed because the Examiner has failed to establish a *prima facie* case of obviousness. Accordingly, claims 1-36 are allowable.

**A. Introduction.**

It is axiomatic that "[i]n proceedings before the patent and Trademark Office, the Examiner bears the burden of establishing a *prima facie* case of obviousness based upon the prior art." *In re Flitch*, 972 F.2d 1260 (Fed. Cir. 1992). This burden is satisfied "only by

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showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *Id.* (quoting *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988)). In rejecting the claims under appeal, the Examiner has failed to meet this burden.

**B. The Examiner Has Failed to Establish a Prima Facie Case of Obviousness for Claims 1-36.**

Claims 1, 11, 17, 19, and 28 are written in independent form with claims 2-10, 12-16, 18, 21-27, and 29-36 depending directly or indirectly from an independent claim.

Independent claim 28 recites:

"A computerized delivery scheduling and updating method comprising:  
creating a delivery schedule for a plurality of deliveries;  
updating the delivery schedule for real-time maintenance of the delivery schedule;  
transmitting a selected portion of the delivery schedule to a remote customer, the selected portion of the delivery schedule notifying the customer of a scheduled delivery;  
receiving over a computer connection a delivery change request from the customer;  
modifying the delivery schedule based on the delivery change request;  
automatically recomputing a delivery sequence based on the delivery change request; and  
transmitting the recomputed delivery sequence to a delivery employee, the delivery employee delivering the goods according to the recomputed delivery sequence."

The Examiner rejects claim 28 as obvious over Business Wire and CNN Matthews. In doing so, the Examiner contends that Business Wire teaches all the limitations of claim 28, except that Business Wire "fails to teach transmitting a selected portion of the delivery schedule to a remote customer, the selected portion of the delivery schedule notifying the customer of a scheduled delivery; receiving over a computer connection a delivery change request from the customer; modifying the delivery schedule based on the delivery change request; automatically recomputing a delivery sequence based on the delivery change request; and transmitting the recomputed delivery sequence to a delivery employee." (10/31/05 Office action, p. 4). The Examiner, however, relies on the disclosure in CNN Matthews to make up for this deficiency. Specifically, the Examiner relies on CNN Matthew's disclosure of Energy DeliveryNet.com, which:

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"through [a] Web interface, users will have access to the current status of shipments, and will receive instant notification about any exceptions to their orders and delivery schedules. The system will generate proactive alert messages and notify individual end users for follow-up action . . . Energy's event notification framework will leverage the Energy DeliveryNet.com architecture, supplying dynamic real-time supply chain 'messages' to any application connected to this architecture. Any of Descartes' leading supply chain execution components such as routing, direct store delivery and mobile applications can take advantage of these 'messages' to re-plan, re-prioritize and re-sequence in real time." (10/31/05 Office action, pp. 4-5; CNN Matthews, pars. 7-8).

In the Office action, the Examiner states that "[t]he Examiner interprets re-planning, re-prioritizing, and re-sequencing is a result of a change request initiated as a result of the proactive alert message sent to the customer, and that the real-time re-planned, re-prioritized, and re-sequenced delivery is communicated by the dispatcher to the driver." (10/31/05 Office action, p. 4). Appellant respectfully disagrees. A person of skill in the art, after considering the entire disclosure of CNN Matthews, would not interpret the above-cited portion of CNN Matthews as done by the Examiner.

First, the "proactive alert messages" disclosed in CNN Matthews are for notifying users "about any exceptions to their orders and delivery schedules." (CNN Matthews, par. 7). Although CNN Matthews teaches that users can take "follow-up action" based on such "alert messages," nothing in CNN Matthews teaches that the "follow-up action" is a "change request from the customer" that is supplied "over a computer connection" as recited in claim 28.

There is also no suggestion to modify CNN Matthews in this manner because the problem that Energy DeliveryNet.com is intended to solve is the lack of monitoring and tracking of the flow of products. For example, CNN Matthews discloses that there is a need to "monitor and track the flow of products throughout entire supply chains." (CNN Matthews, par. 1) (emphasis added). The proposed solution is Energy DeliveryNet.com which allows "all shippers, customers, suppliers, manufacturers, carriers, freight-forwarders and other trading partners to have real-time visibility of where products are in the supply chain via traditional Web browsers." (CNN Matthews, par. 2) (emphasis added). "Energy DeliverNet.com enables trading partners to share real-time logistics information of products inbound and outbound from the time they leave until the time they arrive at the ultimate destination -- all via the Internet." (CNN Matthews, par. 6). Energy DeliveryNet.com "provides the infrastructure and Internet visibility for its customers

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allowing any trading partner to connect using the downloadable intelligent browser, including shippers, carriers, customers, suppliers, freight forwarders and other trading partners giving companies global, real-time supply chain visibility via the Internet." (CNN Matthews, par. 10) (emphasis added).

Given Energy DeliveryNet.com's emphasis on providing visibility of the product flow to its users, a person of skill in the art would interpret the "follow-up action" mentioned on paragraph 8 of CNN Matthews as accessing the Internet to get more information on how their order and delivery schedules have changed. A person of skill in the art would not interpret the "follow-up action" as submitting a "delivery change request" for "automatically recomputing a delivery sequence based on the delivery change request," since this is unrelated to providing visibility of the product flow.

The Examiner notes that CNN Matthews mentions in paragraph, 8 re-planning, re-prioritizing, and re-sequencing in real time. Such re-planning, re-prioritizing, and re-sequencing, however, is in response to "real-time supply chain 'messages'." A person of skill in the art would interpret these "messages" to be akin to either the "proactive alert messages" that are sent to the users, or messages that are triggered by the "proactive alert messages." Nothing, however, indicates that the "real-time supply chain 'messages'" are akin to a "delivery change request from the customer," or messages triggered by such a delivery change request, since, as described above, delivery change requests are neither taught nor suggested by CNN Matthews.

Second, nothing in CNN Matthews teaches or suggests transmitting a delivery sequence to a delivery employee, and much less, "transmitting the recomputed delivery sequence" to the delivery employee. (Emphasis added). The Examiner contends that Business Wire discloses that "wireless and mobile computing applications provide real-time communication capabilities between dispatcher and driver while giving the driver the ability to perform a variety of tasks on a handheld computer at the customer site." (10/31/05 Office action, p. 4). The Examiner then proposes modifying Business Wire so that the recomputed delivery sequence allegedly taught by CNN Matthews is transmitted to the delivery employee. (Id. at p. 5).

First, Business Wire does not teach that the disclosed communication with the delivery employee includes the transmission of any delivery sequence, much less, a "recomputed delivery

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sequence." Business Wire is silent on the type of data contemplated to be transmitted in a communication between the dispatcher and employee.

Second, a person of skill in the art would not be motivated to interpret the communication between the dispatcher and employee to include "transmitting the recomputed delivery sequence. Although the Examiner contends that the need to balance customers' increasing service level demands with the need for operational delivery efficiencies is motivation to modify Business Wire so that users can transmit a delivery change request, modify the delivery schedule based on the delivery change request, and transmit the recomputed delivery sequence to a delivery employee, Business Wire already proposes a solution to meet this need for operational delivery efficiencies. The solution proposed by Business Wire is a Self-Service ATP-D scheduler which allows customers to "interactively schedule their own deliveries according to their personal preferences while simultaneously optimizing delivery resources." (Business Wire, par. 8). Business Wire expressly mentions that it is "Descartes' geocoding component" that "adds more efficiency by enabling companies to immediately verify the shipping address up-front, eliminating the risk of delivery problems and delays due to inaccurate or incomplete address information." (Business Wire, par. 8) (emphasis added). Business Wire makes no mention or suggestion anywhere that operational delivery efficiencies are obtained by "receiving over a computer connection a delivery change request from the customer; modifying the delivery schedule based on the delivery change request; automatically recomputing a delivery sequence based on the delivery change request; and transmitting the recomputed delivery sequence to a delivery employee" as is claimed in claim 28. Thus, the Examiner has failed to make a *prima-facie* case of obviousness with respect to claim 28. Claim 28 is therefore patentable.

Independent claims 1, 11, 17, and 19 are similar to claim 28 in that they all require entering a delivery change request by a user, automatically recomputing a delivery sequence based on the delivery change request, and transmitting the recomputed delivery sequence to a delivery employee. Thus, the Examiner has failed to make a *prima facie* case of obviousness with respect to claims 1, 11, 17, and 19. Claims 1, 11, 17, and 19 are therefore patentable.

Specifically, claims 1, 17, and 20 recite the following means-plus-function elements under 35 U.S.C. 112, sixth paragraph: "means for automatically recomputing a delivery sequence

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based on the delivery change request; and means for transmitting the recomputed delivery sequence to a delivery employee, the delivery employee delivering the goods according to the recomputed delivery sequence." Claim 20 recites additional means-plus-function elements under 35 U.S.C. 112, sixth paragraph: "means for creating delivery schedule information . . .; means for updating the delivery schedule information . . .; means for transmitting a selected portion of the delivery schedule information . . .; [and] means for receiving a delivery change request." The corresponding structure for these means-plus-function elements is the delivery scheduling computer 10 described on page 5, lines 32-34 of the specification, and the delivery scheduling and update process executed by the delivery scheduling computer described on page 9, line 30 through page 14, line 16, with reference to FIGS. 3A-3B.

Claims 2-10, 12-16, 18, 21-27, and 29-36 are also patentable because they depend directly or indirectly from an independent claim, and because they contain additional limitations distinguishing them from the cited references.

**C. Claims 9-16, 18-19, 26, and 34-35 are Separately Patentable for their Recitation of Specific Information Received from a Delivery Employee.**

Claims 9, 11, 18, 26, and 34 are separately patentable over the prior art as they require that the employee computer transmit a delivery completion message to the delivery scheduling computer upon completion of a scheduled delivery, where the delivery completion message includes an actual delivery time. In making the rejection of these claims, the Examiner relies on CNN Matthews' disclosure that users have access to the current status of shipments. (10/31/05 Office action, p. 7). However a general teaching that current status information is available to the users is not a teaching of the specific manner in which the current status information is collected to make it available to the users, and much less, that the current status come from the delivery employees via the "delivery completion message to the delivery scheduling computer upon completion of a scheduled delivery, the delivery completion message including an actual delivery time" as is recited in claim 8.

The Examiner also relies on the disclosure in Business Wire of the wireless and mobile communication capabilities between dispatcher and driver in rejecting claims 9, 11, 18, 26, and 34. However, as discussed above with respect to claim 28, Business Wire is silent on the type of



data contemplated to be transmitted in a communication between the dispatcher and employee. There is no suggestion that the communication include the required delivery completion message to the delivery scheduling computer upon completion of a scheduled delivery, where the delivery completion message includes an actual delivery time, because the focus of Business Wire is on the online scheduling of deliveries by users, and is not concerned in tracking completion of a scheduled delivery in the manner claimed in claims 9, 11, 18, 26, and 34. Accordingly, the Examiner has failed to set forth a *prima facie* case of obviousness for claims 9, 11, 18, 26, and 34. Claims 9, 11, 18, 26, and 34 are therefore patentable.

Claims 10, 12-16, 19, and 35 are also patentable because they depend directly or indirectly from an allowable base claim, and because they contain additional limitations distinguishing them from the cited references.

**D. Claims 10, 13, 18-19, and 35 are Separately Patentable for their Recitation of Updating Delivery Times of Remaining Deliveries Based on Actual Delivery Times.**

Claims 10, 13, 18-19, and 35 are separately patentable over the prior art as claims 10, 13, and 18 require that the delivery scheduling computer "update[] the estimated delivery time of remaining deliveries based on the actual delivery time." Claim 19 requires "updating portions of the delivery schedule information based on the actual delivery time." Claim 35 requires "modifying the delivery schedule information based on the actual delivery time."

The Examiner relies on CNN Matthews' disclosure of re-planning, re-prioritizing, and re-sequencing in real time based on "real-time supply chain 'messages'" in rejecting these claims. (10/31/05 Final Rejection, p. 7). As discussed above with respect to claim 28, the "real-time supply chain 'messages'" disclosed by CNN Matthews are akin to either the "proactive alert messages" that are sent to the users, or messages that are triggered by the "proactive alert messages." Nothing, however, indicates that the "real-time supply chain 'messages'" are triggered based on an actual delivery time transmitted by the delivery employee. Accordingly, the Examiner has failed to set forth a *prima facie* case of obviousness for claims 10, 13, 18-19, and 35. Claims 10, 13, 18-19, and 35 are therefore patentable.

**E. Claims 20-27 are Separately Patentable for their Recitation of a Means for Creating Delivery Schedule Information.**

Claims 20-27 are separately patentable over the prior art as independent claim 20 recites a "means for creating delivery schedule information for a plurality of deliveries." This is a means-plus-function limitation which structure is disclosed in the specification as a computer program executed by the delivery scheduling computer 10 containing computer program instructions for creating a delivery schedule based on a routing algorithm. (Specification p. 10, lines 13-33; FIG. 3). The Examiner did not specifically address the rejection of claim 20, but summarily handled it by stating that the rejection for claims 5-7, 28-31, and 33-36 applied to claims 1-4, 8-23, and 25-27.

Neither Business Wire nor CNN Matthews, however, teaches or suggests computer program instructions for creating a delivery schedule based on a routing algorithm. Business Wire's focus is allowing users to schedule their own deliveries of products, but does not address how the deliveries are scheduled after the orders have been placed, and much less, that the deliveries are scheduled automatically based on a routing algorithm.

CNN Matthews' focus is allowing users to monitor the flow of products through the supply chain, but also fails to address the scheduling of deliveries. Accordingly, the Examiner has failed to set forth a *prima facie* case of obviousness for claim 20. Claim 20 is therefore patentable.

Claims 21-27 are also patentable because they depend directly or indirectly from independent claim 20, and because they contain additional limitations distinguishing them from the cited references..

**F. Claims 21 and 29 are Separately Patentable for their Recitation of a Particular Mechanism for Creating Delivery Schedule Information.**

Claims 21 and 29 are separately patentable over the prior art as they further add the limitation that "the means for creating the delivery schedule information comprises means for creating the delivery schedule information based on a shortest-path algorithm."

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In making the rejection of claim 29, the Examiner relies on paragraphs 7 and 8 of Business Wire which discloses that balancing customers' increasing service level demands with the need for operational delivery efficiencies requires an optimized service and delivery solution. (10/31/05 Office action, p. 6). The Examiner then concludes that Business Wire "suggests [that] a shortest-path algorithm is employed to execute an optimized service and delivery solution to attain operational delivery efficiencies." (Id.) Appellant respectfully disagrees.

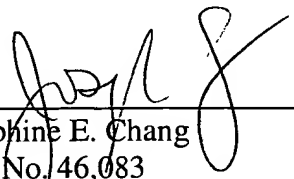
Business Wire's solution to the need for operational delivery efficiencies is Self-Service ATP-D which allows users to schedule their own deliveries of products. Business Wire expressly mentions that it is "Descartes' geocoding component" that "adds more efficiency by enabling companies to immediately verify the shipping address up-front, eliminating the risk of delivery problems and delays due to inaccurate or incomplete address information." (Business Wire, par. 8) (emphasis added). Business Wire makes no mention or suggestion anywhere that operational delivery efficiencies are obtained by "creating the delivery schedule information based on a shortest-path algorithm" as is required by claims 21 and 29. Accordingly, the Examiner has failed to set forth a *prima facie* case of obviousness for claims 21 and 29. Claims 21 and 29 are therefore patentable.

**G. Conclusion.**

For these reasons, all pending claims 1-36 are patentable over the art of record and in condition for allowance. Reversal of the Examiner's decision is urged.

Respectfully submitted,

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**8. CLAIM APPENDIX**

1. A delivery scheduling and updating system comprising:
  - a delivery scheduling computer electronically maintaining real-time delivery schedule information and delivering a selected portion of the information to a remote customer;
  - a user computer accessible to the remote customer for receiving the selected portion of the delivery schedule information and transmitting a delivery change request to the delivery scheduling computer;
  - a set of user application modules associated with the delivery scheduling computer and user computer for allowing the customer to view the selected portion of the delivery schedule information and enter the delivery change request;
  - means for automatically recomputing a delivery sequence based on the delivery change request; and
  - means for transmitting the recomputed delivery sequence to a delivery employee, the delivery employee delivering the goods according to the recomputed delivery sequence.
2. The system of claim 1, wherein the selected portion of the delivery schedule information comprises an estimated delivery time and a delivery location.
3. The system of claim 2, wherein the delivery change request includes a request to change the estimated delivery time.
4. The system of claim 2, wherein the delivery change request includes a request to change the delivery location.
5. The system of claim 1, wherein the user computer is a wired terminal.
6. The system of claim 1, wherein the user computer is a wireless terminal.
7. The system of claim 1, wherein the user computer is a browser-based client.
8. The system of claim 1 further including an employee computer accessible to a delivery employee for receiving the real-time delivery schedule information from the delivery scheduling computer, wherein the network links the delivery scheduling computer to the employee computer.

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9. The system of claim 8, wherein the employee computer transmits a delivery completion message to the delivery scheduling computer upon completion of a scheduled delivery, the delivery completion message including an actual delivery time.

10. The system of claim 9, wherein the delivery scheduling computer updates the estimated delivery time of remaining deliveries based on the actual delivery time.

11. A delivery scheduling and updating system comprising:  
a delivery scheduling computer electronically maintaining real-time delivery schedule information and transmitting the real-time delivery schedule information to a delivery employee, the delivery scheduling computer further transmitting a selected portion of the delivery schedule information to a remote customer, the selected portion of the delivery schedule information notifying the customer of a scheduled delivery;

an employee computer accessible to the delivery employee for receiving the real-time delivery schedule information from the delivery scheduling computer and for transmitting a delivery completion message to the delivery scheduling computer upon completion of the scheduled delivery, the delivery completion message including an actual delivery time; and

a user computer accessible to the remote customer for receiving the selected portion of the delivery schedule information from the delivery scheduling computer;

a set of user application modules associated with the delivery scheduling computer and the user computer for allowing the customer to view the selected portion of the delivery schedule information and enter a delivery change request, wherein the delivery scheduling computer automatically recomputes a delivery sequence based on the delivery change request and transmits the recomputed delivery sequence to the employee computer, the delivery employee delivering the goods according to the recomputed delivery sequence.

12. The system of claim 11, wherein the selected portion of the delivery schedule information comprises an estimated delivery time and a delivery location.

13. The system of claim 12, wherein the delivery scheduling computer receives the delivery completion message and updates the estimated delivery time of remaining deliveries based on the actual delivery time included in the delivery completion message.

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14. The system of claim 11, wherein the employee computer is a wired terminal.
15. The system of claim 11, wherein the employee computer is a wireless terminal.
16. The system of claim 11, wherein the employee computer is a browser-based client.
17. A delivery notification computer in a computer network enabling communication with a remote customer and a remote delivery employee, the delivery notification computer comprising:
  - a memory for storing real-time delivery schedule information;
  - a processor coupled to the memory for creating and updating the real-time delivery schedule information;
  - a network connection coupled to the processor for transmitting a selected portion of the delivery schedule information to the remote customer and for receiving a delivery change request from the customer;
  - a set of user application modules for allowing the customer to view the selected portion of the delivery schedule information and enter the delivery change request;
  - means for automatically recomputing a delivery sequence based on the delivery change request; and
  - means for transmitting the recomputed delivery sequence to a delivery employee, the delivery employee delivering the goods according to the recomputed delivery sequence.
18. The delivery notification computer of claim 17, wherein the network connection further receives a delivery completion message from the remote delivery employee upon completion of the scheduled delivery, and wherein the processor updates the estimated delivery time of remaining deliveries based on the actual delivery time.
19. A delivery notification computer in a computer network enabling communication with a remote customer, the delivery notification computer comprising:
  - a memory for storing real-time delivery schedule information;

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a network connection coupled to the memory for transmitting the real-time delivery schedule information to a delivery employee and a selected portion of the delivery schedule information to a remote customer, the selected portion of the delivery schedule information notifying the customer of a scheduled delivery, the network connection further receiving a delivery completion message from the delivery employee upon completion of the scheduled delivery, the delivery completion message including an actual delivery time, and the network connection further receiving a user-entered delivery change request; and

a processor coupled to the memory and the network connection for creating the real-time delivery schedule information and updating portions of the delivery schedule information based on the actual delivery time, the processor further automatically recomputing a delivery sequence based on the delivery change request and transmitting the recomputed delivery sequence to a delivery employee computer, the delivery employee delivering the goods according to the recomputed delivery sequence.

20. A delivery notification computer in a computer network enabling communication with a remote customer and a remote delivery employee, the delivery notification computer comprising:

means for creating delivery schedule information for a plurality of deliveries;

means for updating the delivery schedule information for real-time maintenance of the delivery schedule information;

means for transmitting a selected portion of the delivery schedule information to a remote customer, the selected portion of the delivery schedule information notifying the customer of a scheduled delivery;

means for receiving a delivery change request from the customer for modifying the delivery schedule information;

means for automatically recomputing a delivery sequence based on the delivery change request; and

means for transmitting the recomputed delivery sequence to a delivery employee, the delivery employee delivering the goods according to the recomputed delivery sequence.

21. The computer of claim 20, wherein the means for creating the delivery schedule information comprises means for creating the delivery schedule information based on a shortest-path algorithm.

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22. The computer of claim 20, wherein the delivery change request includes a request to change the estimated delivery time.

23. The computer of claim 20, wherein the delivery change request includes a request to change the delivery location.

24. The computer of claim 20 further comprising means for recalculating a delivery cost based on the delivery change request.

25. The computer of claim 20 further comprising means for transmitting the delivery schedule information to a delivery employee.

26. The computer of claim 25 further comprising means for receiving a delivery completion message of a particular delivery from the delivery employee, the delivery completion message including an actual delivery time.

27. The computer of claim 20 wherein the means for transmitting further comprises means for determining when the selected portion of the delivery schedule information is to be transmitted to the remote customer.

28. A computerized delivery scheduling and updating method comprising:  
creating a delivery schedule for a plurality of deliveries;  
updating the delivery schedule for real-time maintenance of the delivery schedule;  
transmitting a selected portion of the delivery schedule to a remote customer, the selected portion of the delivery schedule notifying the customer of a scheduled delivery;  
receiving over a computer connection a delivery change request from the customer;  
modifying the delivery schedule based on the delivery change request;  
automatically recomputing a delivery sequence based on the delivery change request; and  
transmitting the recomputed delivery sequence to a delivery employee, the delivery employee delivering the goods according to the recomputed delivery sequence.



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29. The method of claim 28, wherein the creating the delivery schedule information comprises creating the delivery schedule information based on a shortest-path algorithm.

30. The method of claim 28, wherein the delivery change request includes a request to change the estimated delivery time.

31. The method of claim 28, wherein the delivery change request includes a request to change the delivery location.

32. The method of claim 28 further comprising the step of recalculating a delivery cost based on the delivery change request.

33. The method of claim 28 further comprising transmitting the delivery schedule information to a delivery employee.

34. The method of claim 33 further comprising receiving a delivery completion message of a particular delivery from the delivery employee, the delivery completion message including an actual delivery time.

35. The method of claim 34 further comprising modifying the delivery schedule information based on the actual delivery time.

36. The method of claim 28 further comprising determining when the selected portion of the delivery schedule information is to be transmitted to the remote customer.

**9. EVIDENCE APPENDIX**

None

**10. RELATED PROCEEDING APPENDIX**

None